

Introduction:

In this lab, [describe main points of the lab in just a couple sentences].

Evaluation and Results:

[Headings are helpful]: [State results. Give formulas for calculations. Describe/label diagrams and graphical results. Make sure data sheet is attached and all units and diagrams on it are fully labeled].

Example: "GP-6 Analog Computer - Differentiator: A differentiating op amp with one input was wired and tested. Triangle waves were input to the differentiator and the output square waves were observed and amplitude measured. Input slope was calculated as measured peak-to-peak amplitude/(measured 1/2 period). Square wave output was negative when slope of the triangle wave input was positive, and vice versa. During the 5th experiment, the GP-6 overload light lit, indicating op amp overload. Output amplitude for that case was limited to +/- 14.6 V. When the input was changed to a square wave, the GP-6 overload light flashed at each square wave step (up and down) in voltage."

Discussion:

[Discuss results. Compare experimental results to expected results. Explain how and why errors occurred].

Example: "The differentiator experiment went as expected with a square wave output observed for a triangle wave input. Output amplitude closely matched the negative of the input slope as expected. The calculated transfer function of our differentiator is $V_o/V_i = -RCs$. Since the GP-6 (R^*C) is scaled to unity, the results match the theory - output signal is the derivative of the input signal. In the 5th experiment the differentiator was driven by a signal with an input slope large enough to drive it to saturation, resulting in a GP-6 overload light and only +/- 14.6 V output (and no more)."

[2 page limit for all above sections combined.]

Post-Lab Answers:

[Number and answer post-lab questions. Show all work. Give units for all quantities. Neatly handwritten is acceptable.]

Example:

- 1) "We saw that we do not have an ideal differentiator, but one that works well only in the +/- 10 V output range. When a square wave input was applied, the differentiator was briefly saturated at each square wave step (up and down) in voltage (causing the overload light to flicker on) due to the large slope of the input voltage signal during the step jump."

[Be sure to attach pre-lab results (neatly handwritten is acceptable) to end of final report, per TA instructions.]

Reflection:

Please include a reflection of at least 100 words about the today's experiment. This can include answers to the following questions: What aspects of this laboratory assignment met or did not meet your expectations? How did this assignment surprise, excite, or frustrate you? What lessons did you learn from this assignment? What questions do you still have?

[This section does not count toward the 2 page limit and is not graded]